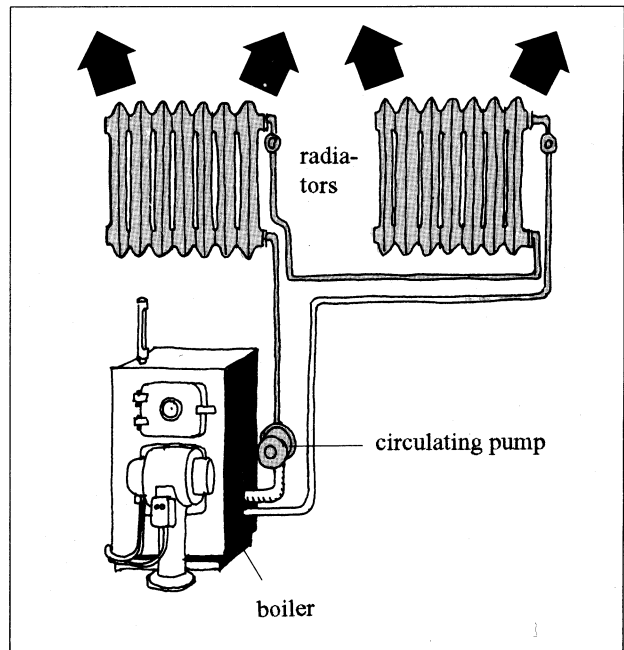
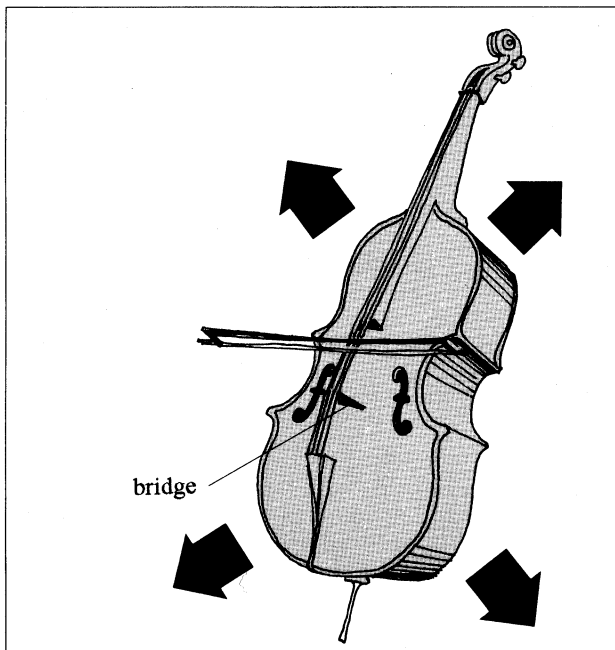


## **AIRBORNE SOUND IS USUALLY PRODUCED BY VIBRATION IN SOLIDS AND FLUIDS**

When we use the word sound in everyday speech, we usually mean airborne sound. Airborne sound is normally produced by vibrations in solid materials - structureborne sound - or pressure variations in fluids - fluidborne sound - which are coupled to a surface that radiates airborne sound. For example, vibrations of the strings of a stringed instrument are transmitted through the bridge to the sound box. When the sound box vibrates, sound is transmitted to the surrounding air. A circulating pump produces pressure variations in the water of a heating system. The fluidborne vibrations are transmitted to the radiators whose large surface areas radiate airborne sound.

### **Principle**



## Application for equipment with pipe connections

### EXAMPLE

The radiation of sound from a pipe with a small diameter is usually negligible. However, a rigid connection of the pipe to an efficient radiator like a wall or a ceiling may convert the pipe into a noise problem.

### CONTROL MEASURE

If flexible supports are substituted for rigid connections, the pipe vibrations will not be transmitted. This type of isolation is usually necessary for refrigeration and hydraulic lines.

